

Therapeutic Evaluation of Pipemidic Acid (R-Urexin) in Urinary Tract Infection. A Preliminary Report

Pages with reference to book, From 235 To 238

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Abstract

Pipemidic acid was effective in 94% cases with acute and in 87.5% cases with chronic urinary tract infection. It was most effective against E. Coli and Proteus. The drug is comparatively free of side effects and can also be given prophylactically to control secondary infection in patients with indwelling catheter (JPMA 34 : 235, 1984).

Introduction

Pipemidic acid is structurally similar to Nalidexic acid. With a 400mg oral BD dose about 85% of the drug is excreted unchanged in the urine, giving a concentration of 170 200 Ug/mi. A clinical study was done to evaluate the efficacy of this drug in the treatment of Urinary tract infection.

Material and Methods

Included in the study were 23 females and 2 males. Seventeen had acute and 8 chronic urinary tract infection. Ages varied from 17 - 47 years.

After clinical diagnosis, the mid stream specimen of urine was cultured on nutrient and Mc Conkey's agar plates at 37°C for 24 hours aerobically. The sensitivity of the organisms to different antimicrobial agents was listed by disc diffusion technique.

Results

1. Acute urinary tract infection (UTI)

Seventeen patients (15 females and 2 males) had acute urinary tract infection, and presented with cystitis (10), pyelitis (3), Urethritis (2) and Cystitis with Urethritis (2). Infecting organism were E. Coli in 11, proteus in 3, staph aureus in 2, and Kiebsiella in 1 case.

All except one patient were symptom free at the end of 7-10 days therapy with 400 mg BD dose of R.Urexin. Of 17 cases, 14 had lower and 3 upper U.T.I. The drug was effective in 94% cases.

2. Chronic Urinary tract infection

Eight females had chronic U.T.I., of these 5 had cystitis and one each of pyelitis, pyelone phritis and cystitis with vulvo vaginitis. Six patients had E. Coli and 2 pseudomonas infection. R urexin was given in 800 mg BD dose for 20 days. Urine culture was repeated in 4 cases after completion of the therapy. E. Coli persisted in one case. Six cases had lower and 2 upper U.T.I. Drug was effective in 87.5% cases.

No side effects were observed except nausea in patient.

Comparative sensitivity of urinary pathogens to pipemidic acid is shown in table I.

Table I

Result of Cases of Acute UTI with Pipemidic Acid.

Case No.	Sex	Age	Clinical Diagnosis	Causative Organism	Sensitivity to Pipemidic Acid	Daily Dosage	Duration of Treatment	Improvement	Side Effect
1.	*F	35	Pyelitis	E. Coli	+	400 mg x 2	10 days	+	-
2.	F	19	Cystitis + Urethritis	E. Coli	+	400 mg x 2	10 days	+	-
3.	F	25	Cystitis	E. Coli	+	400 mg x 2	10 days	+	-
4.	F	30	Cystitis	E. Coli	+	400 mg x 2	10 days	-	-
5.	F	17	Cystitis	E. Coli	+	400 mg x 2	10 days	+	-
6.	F	37	Pyelitis	E. Coli	+	400 mg x 2	10 days	+	-
7.	F	20	Pyelitis	Proteus Species	+	400 mg x 2	10 days	+	-
8.	F	36	Cystitis	E. Coli	+	400 mg x 2	10 days	+	-
9.	F	25	Urethritis	E. Coli	+	400 mg x 2	10 days	+	-
10.	F	20	Cystitis	E. Coli	+	400 mg x 2	7 days	+	-
11.	F	40	Urethritis	E. Coli	+	400 mg x 2	7 days	+	-
12.	F	40	Cystitis	Proteus Species	+	400 mg x 2	10 days	+	-
13.	**M	30	Cystitis	Staphylococcus Aureus	+	400 mg x 2	10 days	+	-
14.	M	32	Cystitis	Staph. Aureus	+	400 mg x 2	10 days	+	-
15.	F	35	Cystitis Urethritis	E. Coli	+	400 mg x 2	10 days	+	-
16.	F	45	Cystitis	Proteus Species	+	400 mg x 2	10 days	+	-
17.	F	25	Cystitis	Klebsiella	+	400 mg x 2	10 days	+	-

* F = Female

** M = Male

It was most effective against E. Coli.

The sensitivity of various organism to pipemidic acid and other organisms is shown in table II. In most cases the organisms were resistant to co-trimoxazole, Doxycycline and Cephalexin. Minocycline was effective in 6 cases only.

The drug was well tolerated by all but one patient, who had nausea not severe enough to stop the treatment.

Discussion

Pipemidic acid was found to be an effective drug in the treatment of acute and chronic urinary tract infection¹. The drug is remarkably free from side effects and its better tolerability further improves the compliance. A dose as high as 100 times the therapeutic dose, was not lethal in experimental animals². Its efficacy was better than commonly used antibiotics like co-trimoxole, Doxycycline and cephalixin (table II).

Table II

Result of Cases of Chronic U.T.I. with Pipemidic Acid.

Case No.	Sex	Age	Clinical Diagnosis	Causative Organism	Sensitivity to Pipemidic Acid	Daily Dosage	Duration of Treatment	Improvement	Side Effects	Culture after Treatment
1.	F	32	Cystitis	Pseudomonas	+	2 Tabs. of 400 mg B.D	20 days	+	-	Not done
2.	F	40	Pyelonephritis	E. Coli	+	800 mg x 2	20 days	+	-	Urine sterile
3.	F	25	Cystitis	E. Coli	+	800 mg x 2	20 days	+	-	Not done
4.	F	37	Pyelitis	E. Coli	+	800 mg x 2	20 days	-	-	Culture yielded resistant E. Coli
5.	F	25	Cystitis	E. Coli	+	800 mg x 2	20 days	+	Nau- sea	Urine sterile
6.	F	32	Cystitis	E. Coli	+	800 mg x 2	20 days	+	-	Not done
7.	F	47	Cystitis + Vulvovaginitis	E. Coli	+	800 mg x 2	20 days	+	-	Urine sterile
8.	F	36	Cystitis	Pseudomonas	+	800 mg x 2	20 days	+	-	Not done

The resistance to these drugs may be due to prior administration of these antibiotics before hospitalization.

The drug was effective in 94% cases with acute and 87.5% with chronic urinary tract infection. It was also used in one case with secondary urinary tract infection due to indwelling catheter in 400/mg BD dose for 14 days.

The drug was free of side effects but the emergence of resistance against this drug cannot be predicted unless it is in use for certain years.

References

1. Fujimura, N. et. al. Clinical experiences of pipemidic, acid on urinary tract infections. *Chemotherapy*, 1975;23: 2940.
2. Senda, H. et. a!. Toxicological studies on Pipemidic acid. *Chemotherapy*, 1975, 23 2734.